What is claimed:

1. A servo demodulation method, comprising:

searching for a servo address mark (SAM) pattern using a first set of servo demodulation detection parameters; and

searching for the SAM pattern using a second set of servo demodulation parameters, wherein at least one servo demodulation parameter in the second set is different than a corresponding parameter in the first set.

2. The method of claim 1, wherein the first set of servo demodulation detection parameters includes a starting automatic gain control (AGC) value that is different than a starting AGC value in the second set.

3. The method of claim 1, wherein the first set of servo demodulation detection parameters includes a starting phase lock loop (PLL) value that is different than a starting PLL value in the second set.

4. The method of claim 1, wherein the first set of servo demodulation detection parameters includes an automatic gain control (AGC) update value that is different than an AGC update value in the second set.

5. The method of claim 1, wherein the first set of servo demodulation detection parameters includes a phase lock loop (PLL) update value that is different than a PLL update value in the second set.

6. The method of claim 1, wherein the first set of servo demodulation detection parameters includes a bit-detection threshold that is different than a bit-detection threshold in the second set.

7. The method of claim 1, wherein the first set of servo demodulation detection parameters includes a SAM confidence threshold that is different than a SAM confidence threshold in the second set.

8. The method of claim 1, wherein the first set of servo demodulation detection parameters includes at least one finite impulse response (FIR) filter coefficient that is different than a corresponding FIR filter coefficient in the second set.

9. The method of claim 1, wherein the first set of servo demodulation detection parameters includes a starting automatic gain control (AGC) value and a starting phase lock loop (PLL) value that is different than a starting AGC value and a starting PLL value in the second set.

10. The method of claim 1, further comprising:

if the SAM pattern is detected using the first set of servo demodulation detection parameters, then determining at least one actual servo demodulation value corresponding to the detection of the SAM pattern using the first set of servo demodulation detection parameters;

if the SAM pattern is detected using the second set of servo demodulation detection parameters, then determining at least one actual servo demodulation value corresponding to a detection of the SAM pattern using the second set of servo demodulation detection parameters; and

selecting and using for servo control at least one actual servo demodulation value produced by one of the first and second servo demodulators that detects the SAM pattern.

11. The method of claim 1, further comprising:

if the SAM pattern is detected using the first set of servo demodulation detection parameters, then determining at least one actual servo demodulation value corresponding to the detection of the SAM pattern using the first set of servo demodulation detection parameters;

if the SAM pattern is detected using the second set of servo demodulation detection parameters, then determining at least one actual servo demodulation value corresponding to a detection of the SAM pattern using the second set of servo demodulation detection parameters; and

characterizing each detection of the SAM pattern as a good SAM detection or a bad SAM detection based at least in part on a comparison between at least one predicted servo demodulation value and a corresponding at least one actual servo demodulation value.

12. The method of claim 11, further comprising:

if detection of the SAM pattern using one of the first and second sets of servo demodulation detection parameters is characterized as a good SAM detection for a servo wedge, then using for servo control an actual servo demodulation value that was determined using the one of the first and second sets of servo demodulation detection parameters that produced the good SAM detection.

13. The method of claim 11, further comprising:

if a detection of the SAM pattern using the first set of servo demodulation parameters and a detection of the SAM pattern using the second set of servo demodulation detector parameters are both characterized as a good SAM detection for a servo wedge, then selecting a best good SAM detection.

14. The method of claim 13, further comprising:

if a detection of the SAM pattern using the first set of servo demodulation detection parameters and a detection of the SAM pattern using the second set of servo demodulation detection parameters are both characterized as a good SAM detection for a servo wedge, then using for servo control an actual servo demodulation value that was determined using the one of the first and second sets of servo demodulation detection parameters that produced the best good SAM detection.

15. A method of claim 1, wherein searching for the SAM pattern using the first set of servo demodulation parameters and searching for the SAM pattern using the second set of servo demodulation parameters includes searching for the SAM pattern in servo wedges that are zone bit recorded.

16. A servo demodulation method for use with a disk having zone bit recorded servo wedges, comprising:

searching for a servo address mark (SAM) pattern, within a servo wedge, using a first set of servo demodulation detection parameters, the first set including a first nominal frequency useful for searching for the SAM pattern if the servo wedge is within a first zone; and

if the servo wedge is near a boundary between the first zone and a second zone, then searching for

the SAM pattern, within the same servo wedge, using a second set of servo demodulation detection parameters, the second set including a second nominal frequency useful for searching for the SAM pattern if the servo wedge is within the second zone; otherwise, if there is a high confidence that the servo wedge is within the first zone and thus not near a boundary, then searching for the SAM pattern, within the same servo wedge, using a third set of servo demodulation detection parameters, the third set including the first nominal frequency useful for searching for the SAM pattern if the servo wedge is within a within the first zone, wherein at least one servo demodulation parameter in the third set is different than a corresponding parameter in the first set.

17. The method of claim 16, further comprising:

if the SAM pattern is detected using the first set of servo demodulation detection parameters, then determining at least one actual servo demodulation value corresponding to the detection of the SAM pattern using the first set of servo demodulation detection parameters;

if the SAM pattern is detected using the second set of servo demodulation detection parameters, then determining at least one actual servo demodulation value corresponding to a detection of the SAM pattern using the second set of servo demodulation detection parameters; and

characterizing each detection of the SAM pattern as a good SAM detection or a bad SAM detection based at least in part on a comparison between at least one predicted servo demodulation value and a corresponding at least one actual servo demodulation value.

18. The method of claim 17, further comprising:

if detection of the SAM pattern using one of the first and second sets of servo demodulation detection parameters is characterized as a good SAM detection for a servo wedge, then using for servo control an actual servo demodulation value, determined using the one of the first and second sets of servo demodulation detection parameters that produced the good SAM detection.

19. The method of claim 17, further comprising:

selecting a best good SAM detection, if a detection of the SAM pattern using the first set of servo demodulation parameters and a detection of the SAM pattern using the second set of servo demodulation detector parameters are both characterized as a good SAM detection for a servo wedge.

20. The method of claim 19, further comprising:

if a detection of the SAM pattern using the first set of servo demodulation detection parameters and a detection of the SAM pattern using the second set of servo demodulation detection parameters are both characterized as a good SAM detection for a servo wedge, then using for servo control an actual servo demodulation value that was determined using the one of the first and second sets of servo demodulation detection parameters that produced the best good SAM detection.

21. The method of claim 16, wherein when there is a high confidence that the servo wedge is within the first zone, at least one of the following servo demodulation parameters is different in the third set than a corresponding parameter in the first set:

a starting automatic gain control (AGC) value;

a starting phase lock loop (PLL) value;

an automatic gain control (AGC) update value;

a phase lock loop (PLL) update value;

a bit-detection threshold;

a SAM confidence threshold; and

a finite impulse response (FIR) filter coefficient.

22. The method of claim 16, further comprising:

if the SAM pattern is detected using the first servo demodulator, then determining at least one actual servo demodulation value corresponding to the detection of the SAM pattern using the first servo demodulator;

if the SAM pattern is detected using the second servo demodulator, then determining at least one actual servo demodulation value corresponding to a detection of the SAM pattern using the second servo demodulator; and

selecting and using for servo control at least one actual servo demodulation value produced by one of the first and second servo demodulators that detects the SAM pattern.